

WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device comprising at least two p-channel thin film transistors,
said method comprising the steps of:
forming a semiconductor island over a substrate;
forming a gate electrode adjacent to the semiconductor island with a gate insulating film therebetween;
forming a source region, a drain region and a channel region formed between the source and drain regions,
wherein the two p-channel thin film transistors are connected in series.
2. A method according to claim 1, further comprising the step of:
forming a blocking film between the substrate and the semiconductor island,
wherein the substrate is a glass substrate;
wherein the blocking film includes,
a silicon nitride film with a thickness in a range of 5-200 nm formed on the glass substrate, and
a silicon oxide film with a thickness in a range of 20-1000 nm formed on the silicon nitride film.
3. A method according to claim 1,
wherein an off current from each of the p-channel thin film transistors is less than 10-12 A where a voltage of the drain region is 1V.
4. A method according to claim 1, further comprising the step of:
forming an interlayer insulating film including boro-phosphosilicate glass.
5. A method according to claim 1,
wherein the semiconductor island is a crystalline semiconductor island.
6. A method according to claim 1,
wherein each of the source and drain regions comprises boron.

13. A method of manufacturing a semiconductor device,
said semiconductor device comprising:
at least a first p-channel thin film transistor and a second p-channel thin film transistor;
a transmission gate including a CMOS circuit, said CMOS circuit including at least an n-channel thin film transistor and a third p-channel thin film transistor;
said method comprising the steps of:
forming a semiconductor island over a substrate;
forming a gate electrode adjacent to the semiconductor island with a gate insulating film therebetween;
forming a source region, a drain region and a channel region formed between the source and drain regions,
wherein the first and second p-channel thin film transistors are connected in series.
14. A method according to claim 13 further comprising the step of:
forming a blocking film between the substrate and the semiconductor island,
wherein the substrate is a glass substrate,
wherein the blocking film includes,
a silicon nitride film with a thickness in a range of 5-200 nm formed on the glass substrate, and
a silicon oxide film with a thickness in a range of 20-1000 nm formed on the silicon nitride film.
15. A method according to claim 13,
wherein an off current from each of the first, second and third p-channel thin film transistors is less than 10⁻¹² A where a voltage of the drain region is 1 V.
16. A method according to claim 13 further comprising the step of:
forming an interlayer insulating film including boro-phosphosilicate glass.
17. A method according to claim 13,
wherein the semiconductor island is a crystalline semiconductor island.

18. A method according to claim 13,
wherein each of the source and drain regions of each of the first, second and third p-channel thin film transistors comprises boron.

19. A method according to claim 13,
wherein each of the second source and drain regions of the n-channel thin film transistor comprises phosphorus.

100220-4849160